

WHAT IS CLAIMED IS

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1. An image processing apparatus,  
comprising:

a memory which stores a code stream having  
a wavelet division level;

10 an interface unit which transmits the code  
stream to another apparatus; and

a processing unit which changes the  
wavelet division level of the code stream before the  
transmission of the code stream to said another  
15 apparatus by acquiring a target division level that  
is a wavelet division level of said another  
apparatus, checking a difference between the target  
division level and the wavelet division level of the  
code stream, generating data that compensates for  
20 the difference, and embedding the generated data  
into the code stream.

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2. The image processing apparatus as claimed in claim 1, wherein in response to the difference indicating the target division level lower than the wavelet division level of the code stream, said processing unit generates the data that compensates for the difference by reading coded data belonging to levels higher than the target division level, decoding the read coded data to obtain wavelet coefficients, performing inverse wavelet transform on the wavelet coefficients to generate LL component data, and encoding the LL component data.

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3. The image processing apparatus as claimed in claim 1, wherein in response to the difference indicating the target division level higher than the wavelet division level of the code stream, said processing unit generates the data that compensates for the difference by reading coded data of an LL component belonging to a level lower than the target division level, decoding the read coded data of the LL component to obtain wavelet coefficients, performing wavelet transform on the

wavelet coefficients to generate wavelet coefficients of the target division level, and encoding the wavelet coefficients of the target division level.

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4. The image processing apparatus as  
10 claimed in claim 1, wherein said processing unit changes a description of coding conditions stored in the code stream, the change in the description being responsive to the change in the wavelet division level of the code stream.

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5. The image processing apparatus as  
20 claimed in claim 4, wherein said description of coding conditions is a description of a decomposition level number included in parameter SPcod regarding a coding style of components, which is part of a default coding style marker (COD)  
25 contained in the code stream.

5                   6. A computer-readable record medium  
having a program embodied therein for causing a  
computer to transmit a code stream having a wavelet  
division level to another apparatus, said program  
comprising the steps of:

10                   acquiring a target division level that is  
a wavelet division level of said another apparatus;  
                    checking a difference between the target  
division level and the wavelet division level of the  
code stream;

15                   generating data that compensates for the  
difference; and  
                    embedding the generated data into the code  
stream so as to change the wavelet division level of  
the code stream before the transmission of the code  
20 stream to said another apparatus.

25                   7. The computer-readable record medium as

claimed in claim 6, wherein in response to the difference indicating the target division level lower than the wavelet division level of the code stream, said step of generating the data that  
5 compensates for the difference carries out:

reading coded data belonging to levels higher than the target division level;

decoding the read coded data to obtain wavelet coefficients;

10 performing inverse wavelet transform on the wavelet coefficients to generate LL component data; and

encoding the LL component data to generate the data that compensates for the difference.

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8. The computer-readable record medium as  
20 claimed in claim 6, wherein in response to the difference indicating the target division level higher than the wavelet division level of the code stream, said step of generating the data that compensates for the difference carries out:

25 reading coded data of an LL component

belonging to a level lower than the target division level;

decoding the read coded data of the LL component to obtain wavelet coefficients;

5 performing wavelet transform on the wavelet coefficients to generate wavelet coefficients of the target division level; and

encoding the wavelet coefficients of the target division level to generate the data that  
10 compensates for the difference.

15 9. The computer-readable record medium as claimed in claim 6, wherein said program further includes a step of changing a description of coding conditions stored in the code stream, the change in the description being responsive to the change in  
20 the wavelet division level of the code stream.

25 10. The computer-readable record medium as

claimed in claim 9, wherein said description of  
coding conditions is a description of a  
decomposition level number included in parameter  
SPcod regarding a coding style of components, which  
5 is part of a default coding style marker (COD)  
contained in the code stream.